April 30, 2015

James Justice
U.S. EPA, Region 5
25063 Center Ridge Road
Westlake, Ohio 44145-4114

Re: In re Eisenbarth Well Pad Site, Docket No. V-W-14-C-012
Proposed Sampling Locations for Opossum and Sunfish Creeks

Dear Mr. Justice,

In your letter dated February 24, 2015, U.S. EPA requested that Statoil submit the proposed sampling locations for Opossum Creek and Sunfish Creek for U.S. EPA's review prior to the first sampling event of these locations for the work required by Section 15.a.ii of the Administrative Settlement Agreement and Order on Consent, Docket No. V-W-14-C-012. See February 24 letter at 3. Enclosed please find the proposed locations, prepared by Statoil's contractor, Moody and Associates, Inc.

Please let me know if you have any questions regarding this submission.

Sincerely,

Steve Tink
Marcellus SSU Leader
Statoil USA Onshore Properties, Inc.

Attachments

Proposed Sampling Locations for Opossum and Sunfish Creeks

As recommended by the United States Environmental Protection Agency (U.S. EPA) in its December 10, 2014, comments to Statoil's draft work plan, a biological assessment of Opossum Creek will be conducted at two (2) sample locations that were also utilized by the Ohio EPA (OEPA) for the watershed study summarized in *Biological and Water Quality Study of the Sunfish Creek Watershed and Selected Ohio River Tributaries* (OEPA, 2009a). In addition, U.S. EPA requested that Statoil submit the proposed locations for Opossum Creek and the background sampling locations for Sunfish Creek to U.S. EPA for review prior to the first sampling event of these locations. *See* U.S. EPA letter, dated February 24, 2015.

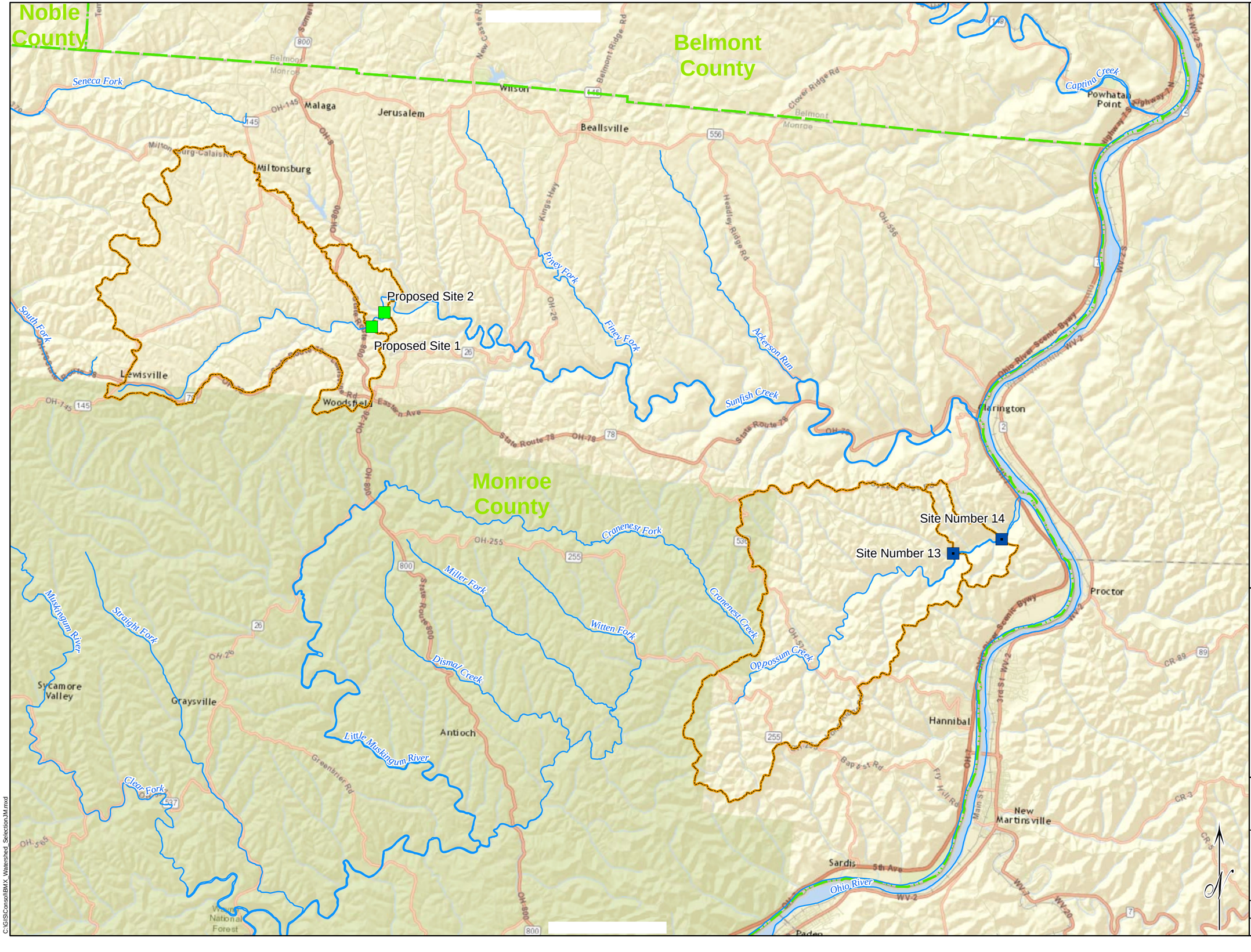
For Opossum Creek, Statoil proposes to perform sampling at OEPA Site Number 13 (Opossum Creek, Beautiful Ridge Road, River Mile 22.2) at 39.7211000° N, 80.87860000° W, and at OEPA Site Number 14 (Opossum Creek, Ust Gilmore Run, River Run Mile 24) at 39.7261230° N, 80.8591640° W (See attached **Figure #1: Sampling Point Location Map**).

In addition, Statoil proposes to include two (2) reference stations along Sunfish Creek. This will allow for a comparison of data at stream reaches within adjacent watersheds that have similar watershed sizes, gradient, substrates, flows, widths, stream morphology, aquatic life use designations (WWH), and land use characteristics. In addition, the sites along Sunfish Creek and Opossum Creek experience similar and concurrent weather conditions (rainfall, temperature, etc.).

Moody conducted an office review using the *Stream Stats Ohio* database and aerial imagery to locate areas along Sunfish Creek of similar watershed size to those of Opossum Creek Site Number 13 (approximately 22 sq. miles) and Site Number 14 (approximately 24 sq. miles). Consideration was also given to influence from manmade structures (bridges, reservoirs, roads), access to the sites, stream reaches with similar aquatic life use designations, and landowner permissions. Given all of the aforementioned criteria, an area north of Woodsfield and to the east of Ohio State Route 800 (and upstream to the discharge of Lower Woodsfield Reservoir) was chosen for conducting a field investigation (**Figure 1**).

Although recent rainstorms in the area caused local high flow conditions, the field review verified that this general location, i.e., north of Woosdfield and east of Ohio State Route 800, contained several areas of stream that would satisfy the criteria for selection of biological assessment sampling locations with similar characteristics as Site Numbers 13 and 14. Given the high flow conditions, the flow and complete stream morphology were not able to be determined. However, given the similar watershed sizes and land use, these criteria are expected to be similar.

Site Name	Approximate Watershed Size (Square Miles)	Substrate Type	Approximate Width (Feet)	Land use	Access
Opossum 13	22	Gravel Boulder	27	Roadway and very steep hillside on left bank descending; wooden riparian area along right bank with open field in flood prone area. Area immediately upstream contains beaver dams and wetlands prone to flooding.	Public Roadway
Opossum 14	24	Gravel Cobble	30	Roadway and moderately sloping hillside on left bank descending; wooden riparian area along right bank with open field in flood prone area	Public Roadway
Sunfish 1	21	Gravel Cobble	29	Roadway and agricultural use field/ pasture on west bank; East bank is extremely steep and wooded.	Public Roadway
Sunfish 2	21	Gravel Boulder	30	Open agricultural use field/ pasture with minimal tree cover bordering the west bank. East bank is extremely steep and wooded. Intersection with outflow from reservoir located approximately 100 feet downstream from this site.	Landowner granted (with conditions)



LEGEND

- Biological Assessment Sampling Point
- Proposed Sunfish Creek Sites
- Watersheds
- Stream
- OH_County_Boundaries

Scale:

0 — 10,000 — 20,000

Feet

1 in = 10,000 ft

Map References:

• Base Layer Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Notes:

BIO-ASSESSMENT FIELD MAP

Eisenbarth Site

Ohio Township,
Monroe, OH

Project #: 14-467-LM

Prepared for : Statoil

199 Johnson Road
Building 2, Suite 101
Houston, PA 15342
Office: (724) 746-5200
Fax: (724) 746-5603
www.moody-s.com

Moody and Associates, Inc.

Drawn by:	BMP	Date:	4/15/2015
Checked by:	LM	Revision:	

C:\GIS\Consol\BMX_Watershed_SelectionJM.mxd

Biological Assessment Site Selection Rational

As recommended by the United States Environmental Protection Agency (U.S. EPA), a biological assessment of Opossum Creek will be conducted at two (2) sample locations utilized by the Ohio EPA (OEPA) for the watershed study summarized in *Biological and Water Quality Study of the Sunfish Creek Watershed and Selected Ohio River Tributaries* (OEPA, 2009a). Specifically, sampling will be conducted at OEPA Site Number 13 (Opossum Creek, Beautiful Ridge Road, River Mile 22.2) at 39.7211000° N, 80.87860000° W, and at OEPA Site Number 14 (Opossum Creek, Ust Gilmore Run, River Run Mile 24) at 39.7261230° N, 80.8591640° W (See attached **Figure #1: Sampling Point Location Map**). Sampling at locations previously utilized by OEPA will facilitate a general comparative analysis of the sample data collection proposed for June of 2015 at Site Numbers 13 and 14 with data collected at these locations by OEPA in 2008.

In addition, Statoil proposes to include comparative biological data to be collected at two (2) reference stations along Sunfish Creek. This will allow for a comparison of data at stream reaches within adjacent watersheds that have similar watershed sizes, gradient, substrates, flows, widths, stream morphology, aquatic life use designations (WWH) and land use characteristics. In addition, the sites along Sunfish Creek and Opossum Creek experience similar and concurrent weather conditions (rainfall, temperature, etc.).

Moody conducted an office review using the *Stream Stats Ohio* database and aerial imagery to locate areas along Sunfish Creek of similar watershed size to those of Opossum Creek Site Number 13 (approximately 22 sq. miles) and Site Number 14 (approximately 24 sq. miles). Consideration was also given to influence from manmade structures (bridges, reservoirs, roads), access to the sites, stream reaches with similar aquatic life use designations and landowner permissions. Given all of the aforementioned criteria, an area north of Woodsfield and to the east of Ohio State Route 800 (and upstream to the discharge of Lower Woodsfield Reservoir) was chosen for conducting a field investigation (**Figure 1**).

Although recent rainstorms in the area caused local high flow conditions, the field review verified that this general location contained several areas of stream that would likely satisfy the criteria for selection of biological assessment sampling locations with similar characteristics as Site Numbers 13 and 14. Given the high flow conditions, the flow and complete stream morphology were not able to be determined. However, given the similar watershed sizes and land use, these criteria are expected to be similar.

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